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### *The Sackbut Blues: Hugh Le Caine, Pioneer in Electronic Music* by Gayle Young, Ottawa, National Museum of Science and Technology, 1989. Pp xiv + 274, ill., \$29.95. ISBN 0-660-12006-2.

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*The Sackbut Blues: Hugh Le Caine, Pioneer in Electronic Music* by Gayle Young, Ottawa, National Museum of Science and Technology, 1989. Pp xiv + 274, ill., \$29.95. ISBN 0-660-12006-2.

As far back as the time of Pythagoras there has been a strong affinity between science and music, particularly in the case of the physical sciences. A very large fraction of physicists are amateur musicians, sometimes of more than average competence: Einstein, for example, was a devoted and accomplished violinist. Sir William Herschell, the great astronomer, began his career as a professional musician and was a minor composer of some reputation. On the other side, Saint-Saens was an accomplished amateur astronomer who published in professional journals. In some cases science and music came together as in the case of Helmholtz and the American physicist Saunders. In no person was this integration more complete than in Canada's largely unknown genius Hugh Le Caine (1917-1977).

Le Caine had formal training as a physicist and engineer, but his first love was music. He seems to have been the first to realize that electronics in the post-war era had advanced sufficiently to be considered as a serious component in both

performance and composition. Before Le Caine there had certainly been applications of electronics to music, but they had produced sounds that had characterized them as 'electronic.' The Theramin and Ondes Martenot of the 1920s are examples that attracted public attention; the former should probably be classed as a gimmick but the latter is a more serious and playable instrument. Le Caine's insight seems to have been that unless an electronic instrument was versatile enough to reproduce accurately, and in a thoroughly playable manner, the traditional sounds of music, it would not be versatile enough to interest composers and musicians in exploring new sounds and sound structures. Thus it was that his first efforts were directed to what he called the 'Electronic Sackbut' and what today we would call a 'synthesizer.'

The problems of physics and musicianship that he had to overcome were formidable, and Young is somewhat more successful in describing the latter than the former. A certain air of naiveté is evident in the purely scientific descriptions of Le Caine's work, but the musical problems, solutions and the musical setting in which the work was carried out are expertly delineated; Young is, after all, a composer of considerable talent.

The progress of Le Caine's musical research from after-hours work in his private studio to leading a small group at the National Research Council is carefully described and documented by Young. That such a group could even be considered in a national research institution is itself a minor miracle requiring an unlikely coincidence of events: first, one needs Le Caine and then E.W.R. Steacie, the great scholar-president of NRC, who recognized that the Council might legitimately provide something for the spirit of the nation as well as its pocketbook. While Steacie lasted, Le Caine thrived producing a cornucopia of new electronic compositional aids, that inspired a generation of composers. A technical description of all Le Caine's instruments is provided by Young in a generous appendix.

Le Caine's musical compositions are described in the progress of the technical narrative. Le Caine, himself, belittled his compositions claiming that they were only necessary exercises in the development of the instruments but, of course, only posterity has the right to judge their worth. There is a slight impression that Young-the-musician overcompensated in her narrative to emphasize Le Caine-the-technologist. This impression is certainly false; no one has a higher opinion of Le Caine's compositions than Young herself. Even before this book was published she was responsible for collecting all extant examples of Le Caine's work and issuing them of a superbly-crafted LP record, an action for which all historians and musicians should be grateful. Digital and computer methods have largely rendered Le Caine's instruments obsolete, but ironically he has earned a minor immortality for his compositions. 'Dripsody' will probably remain an electronic music popular classic for a very long time.

With the departure of Steacie the decline of Le Caine's project, productivity and morale were swift and tragic. Early retirement and untimely death in 1977 brought to an end one of the most unusual careers in Canadian cultural history.

Gayle Young has written a very important book about a Canadian who was rapidly being lost to memory and becoming a mysterious name on record-jacket liner notes. She has collected the available facts on his life and work, and presented them from the musician's point of view which, in the long run, may be the proper perspective for Le Caine. It is a point of view about which he, himself, would have had some reservations, but again posterity will decide.

Although she never met him, Young is very close to her subject, perhaps a bit too close for dispassionate assessment of his character. Although the dark and depressed side of his nature is discussed, the unpleasant side is avoided. Le Caine was difficult to work with; he could be extremely unpleasant and uncooperative. Under the control of managers rather than scholars Le Caine was doomed to frustration and disappointment. He was as out of place at NRC as was Delius managing his Florida orange grove; the role of Steacie is perhaps not sufficiently recognized here.

Gayle Young's accomplishment in gathering together the scattered facts and memorabilia on this obscure, largely forgotten but important Canadian is to be applauded. The material is well organized and presented with simplicity and clarity. As this is probably the only book devoted to Le Caine's life that will ever be written, it is a shame that the copy editors and printers have made such a mess by dropping words and whole lines at the ends of several pages. Her book and Le Caine deserved much better.

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